

SEQUENCE LISTING

<110> Commonwealth Scientific and Industrial Resrch. Org.

<120> MALATHION CARBOXYLESTERASE

<130> Attorney Docket No. 50179-051

<140> 09/068, 960

<141> 1998-06-20

<150> PCT/AU96/00746

<151> 1996-11-22

<150> AU 6751

<151> 1995-11-23

<160> (43)

<170> PatentIn Ver. 2.0

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Cys Ile Glu Asn Lys Phe Leu Asn Tyr Arg Leu Thr Thr Asn Glu Thr
 20 25 30

Val Val Ala Glu Thr Glu Tyr Gly Lys Val Lys Gly Val Lys Arg Leu
 .. .35 40 45
 Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
 50 55 60
 Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
 65 70 75 80
 Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
 85 90 95
 Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
 100 105 110
 Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
 115 120 125
 Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Ile Gly Glu Asn His
 130 135 140
 Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
 145 150 155 160
 Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
 165 170 175
 Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
 180 185 190
 Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
 195 200 205
 Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
 210 215 220
 His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
 225 230 235 240
 Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Trp Ala Asn Thr Gln Cys
 245 250 255
 Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
 260 265 270
 Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
 275 280 285
 Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg Thr
 290 295 300
 Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
 305 310 315 320
 Ala Asp Cys Val Leu Pro Lys His Pro Arg Glu Met Val Lys Thr Ala
 325 330 335
 Trp Gly Asn Ser Ile Pro Thr Met Met Gly Asn Thr Ser Tyr Glu Gly

340

345

350

Leu Phe Phe Thr Ser Ile Leu Lys Gln Met Pro Met Leu Val Lys Glu
355 360 365

Leu Glu Thr Cys Val Asn Phe Val Pro Ser Glu Leu Ala Asp Ala Glu
370 375 380

Arg Thr Ala Pro Glu Thr Leu Glu Met Gly Ala Lys Ile Lys Lys Ala
385 390 395 400

His Val Thr Gly Glu Thr Pro Thr Ala Asp Asn Phe Met Asp Leu Cys
405 410 415

Ser His Ile Tyr Phe Trp Phe Pro Met His Arg Leu Leu Gln Leu Arg
420 425 430

Phe Asn His Thr Ser Gly Thr Pro Val Tyr Leu Tyr Arg Phe Asp Phe
435 440 445

Asp Ser Glu Asp Leu Ile Asn Pro Tyr Arg Ile Met Arg Ser Gly Arg
450 455 460

Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
465 470 475 480

Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
485 490 495

Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
500 505 510

Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
515 520 525

Ile Lys Lys Ser Asp Glu Val Tyr Lys Cys Leu Asn Ile Ser Asp Glu
530 535 540

Leu Lys Met Ile Asp Val Pro Glu Met Asp Lys Ile Lys Gln Trp Glu
545 550 555 560

Ser Met Phe Glu Lys His Arg Asp Leu Phe
565 570

<210> 9

<211> 1713

<212> DNA

<213> Lucilia cuprina

<400> 9

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aaagtgaaag gcgttaaacg tttaactgtg tacgatgatt cctactacag ttttgagggt 180
ataccgtacg cccaaccgcc agtgggtgag ctgagattta aagcacccca gcgaccaaca 240
ccctgggatg gtgtgcgtga ttgttgcaat cataaagata agtcagtgcg agttgatttt 300
ataacgggca aagtgtgtgg ctacagaggat tgtctatacc taagtgtcta tacgaataat 360
ctaaatcccg aaactaaacg tcccgtttta gtatacatatc atgggtggtgg ttttattatc 420

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ggtgaaaatc atcgtgatat gtatgggtcct gattatttca ttaaaaagga tgtgggtgttg 480
attaacatad aatatcggtt gggagctcta gggtttctaa gtttaaattc agaagacott 540
aattgtgccc gtaatgccc gcttaaagat caagtcattg ccttgcggtg gattaaaaat 600
aattggccca accttgggtg caatcccgat aatattacag tctttgggtg aagtgcgggt 660
gtgacctcta ccactacat gatgttaacc gaacaaaactc ggggtctttt ccacgtgggt 720
atactaattg cgggtaatgc tatttgctca ttggctaata cccaatgtca acatcgtgcc 780
ttcacottag ccaaatgggc cggctataag ggtgaggata atgataagga tgttttggaa 840
ttctttatga aagccaagcc acaggattta ataaaaactg agggaaaaagt tttaactcta 900
gaagagcgta caaataaggt catgtttcct tttgggtcca ctggttagcc atacagacc 960
gttgattgtg tcttaccbaa acatcctcgg gaaatgggta aaactgcttg gggtaattcg 1020
atacccacta tcatgggtta cacttcatat gagggcttat tttcacttc aattottaag 1080
caaatgccta tgcctgttaa ggaattggaa acttggtgca attttgtgcc aagtgaattg 1140
gttgatgtg aaagcacccg ccagagacc ttggaaatgg gtgctaaaat taaaaaggct 1200
catgttacag gaaaaacacc aacagctgat aattttatgg atctttgtc tcacatctat 1260
ttctggttcc ccacgcatcg tttgttgcaa ttacgtttca atcacacctc cggtagaccc 1320
gtctacttgt atcgcttcga ctctgattcg gaagatotta tcaatcccta tcttattatg 1380
gttagtggac gtgggtgtaa ggggtgttag catgctgat aattaacctt ttcttctg 1440
aatcaattgg ccaaacgtat gcctaaagaa tcgctggaat acaaaaacaat tgaacgtatg 1500
actggtatat ggatacaatt tgccaccact ggtaatcctt atagcaatga aattgaagg 1560
atggaaaatg tttcctggga tccaattaag aaatccgatg aagtatacaa gtgtttgaat 1620
attagtgatg aattgaaaat gattgatgtg cctgaaatgg ataagattaa acaatgggag 1680
tcgatgttg aaaaacatag agatttatt tag 1713

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<210> 10

<211> 570

<212> PRT

<213> *Lucilia cuprina*

<400> 10

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Met Asn Phe Asn Val Ser Leu Met Glu Lys Leu Lys Trp Lys Ile Lys
  1                      5                      10                      15

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Cys Ile Glu Asn Lys Phe Leu Asn Tyr Arg Leu Thr Thr Asn Glu Thr
      20                      25                      30

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Val Val Ala Glu Thr Glu Tyr Gly Lys Val Lys Gly Val Lys Arg Leu
      35                      40                      45

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```

Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Gly Ile Pro Tyr Ala
      50                      55                      60

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```

Gln Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Thr
      65                      70                      75                      80

```

```

Pro Trp Asp Gly Val Arg Asp Cys Cys Asn His Lys Asp Lys Ser Val
      85                      90                      95

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```

Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu
      100                     105                     110

```

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Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
      115                     120                     125

```

```

Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Ile Gly Glu Asn His
      130                     135                     140

```

```

Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
      145                     150                     155                     160

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| | | | | | | | | | | | | | | |
|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Ile, Asn | Ile | Gln | Tyr | Arg | Leu | Gly | Ala | Leu | Gly | Phe | Leu | Ser | Leu | Asn |
| | | | | | 165 | | | 170 | | | | | 175 | |
| Ser | Glu | Asp | Leu | Asn | Val | Pro | Gly | Asn | Ala | Gly | Leu | Lys | Asp | Gln |
| | | | 180 | | | | 185 | | | | | | 190 | |
| Met | Ala | Leu | Arg | Trp | Ile | Lys | Asn | Asn | Cys | Ala | Asn | Phe | Gly | Gly |
| | | 195 | | | | | 200 | | | | | 205 | | |
| Pro | Asp | Asn | Ile | Thr | Val | Phe | Gly | Glu | Ser | Ala | Gly | Ala | Ala | Ser |
| | 210 | | | | | 215 | | | | | 220 | | | |
| His | Tyr | Met | Met | Leu | Thr | Glu | Gln | Thr | Arg | Gly | Leu | Phe | His | Arg |
| 225 | | | | | 230 | | | | | 235 | | | | 240 |
| Ile | Leu | Met | Ser | Gly | Asn | Ala | Ile | Cys | Pro | Leu | Ala | Asn | Thr | Gln |
| | | | | 245 | | | | | 250 | | | | | 255 |
| Gln | His | Arg | Ala | Phe | Thr | Leu | Ala | Lys | Leu | Ala | Gly | Tyr | Lys | Gly |
| | | | 260 | | | | | 265 | | | | | 270 | |
| Asp | Asn | Asp | Lys | Asp | Val | Leu | Glu | Phe | Leu | Met | Lys | Ala | Lys | Pro |
| | | 275 | | | | | 280 | | | | | 285 | | |
| Asp | Leu | Ile | Lys | Leu | Glu | Glu | Lys | Val | Leu | Thr | Leu | Glu | Glu | Arg |
| | 290 | | | | | 295 | | | | | | 300 | | |
| Asn | Lys | Val | Met | Phe | Pro | Phe | Gly | Pro | Thr | Val | Glu | Pro | Tyr | Gln |
| 305 | | | | | 310 | | | | | 315 | | | | 320 |
| Ala | Asp | Cys | Val | Leu | Pro | Lys | His | Pro | Arg | Glu | Met | Val | Lys | Thr |
| | | | 325 | | | | | | 330 | | | | | 335 |
| Trp | Gly | Asn | Ser | Ile | Pro | Thr | Met | Met | Gly | Asn | Thr | Ser | Tyr | Glu |
| | | | 340 | | | | | 345 | | | | | 350 | |
| Leu | Phe | Phe | Thr | Ser | Ile | Leu | Lys | Gln | Met | Pro | Met | Leu | Val | Lys |
| | 355 | | | | | | 360 | | | | | 365 | | |
| Leu | Glu | Thr | Cys | Val | Asn | Phe | Val | Pro | Ser | Glu | Leu | Ala | Asp | Ala |
| | 370 | | | | | 375 | | | | | 380 | | | |
| Arg | Thr | Ala | Pro | Glu | Thr | Leu | Glu | Met | Gly | Ala | Lys | Ile | Lys | Lys |
| 385 | | | | | 390 | | | | | 395 | | | | 400 |
| His | Val | Thr | Gly | Glu | Thr | Pro | Thr | Ala | Asp | Asn | Phe | Met | Asp | Leu |
| | | | | 405 | | | | | 410 | | | | | 415 |
| Ser | His | Ile | Tyr | Phe | Trp | Phe | Pro | Met | His | Arg | Leu | Leu | Gln | Leu |
| | | | 420 | | | | | 425 | | | | | 430 | |
| Phe | Asn | His | Thr | Ser | Gly | Thr | Pro | Val | Tyr | Leu | Tyr | Arg | Phe | Asp |
| | 435 | | | | | | 440 | | | | | 445 | | |
| Asp | Ser | Glu | Asp | Leu | Ile | Asn | Pro | Tyr | Arg | Ile | Met | Arg | Ser | Gly |
| | 450 | | | | | 455 | | | | | 460 | | | |

Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Phe Phe Trp
465 470 475 480

Asn Gln Leu Ala Lys Arg Met Pro Lys Glu Ser Arg Glu Tyr Lys Thr
485 490 495

Ile Glu Arg Met Thr Gly Ile Trp Ile Gln Phe Ala Thr Thr Gly Asn
500 505 510

Pro Tyr Ser Asn Glu Ile Glu Gly Met Glu Asn Val Ser Trp Asp Pro
515 520 525

Ile Lys Lys Ser Asp Glu Val Tyr Lys Cys Leu Asn Ile Ser Asp Glu
530 535 540

Leu Lys Met Ile Asp Val Pro Glu Met Asp Lys Ile Lys Gln Trp Glu
545 550 555 560

Ser Met Phe Glu Lys His Arg Asp Leu Phe
565 570

#210> 11
#211> P6
#212> DNA
#213> Lucilia cuprina

#400> 11
atgaatttca acgtagttt gatgga 26

#210> 12
#211> 28
#212> DNA
#213> Lucilia cuprina

#400> 12
ctaaaataaaa tottatgtt tttcaaac 28

#210> 13
#211> 570
#212> PRT
#213> Musca domestica

#400> 13
Met Thr Phe Leu Lys Gln Phe Ile Phe Arg Leu Lys Leu Cys Val Lys
1 5 10 15

Cys Met Val Asn Lys Tyr Thr Asn Tyr Arg Leu Ser Thr Asn Glu Thr
20 25 30

Gln Ile Ile Asp Thr Glu Tyr Gly Gln Ile Lys Gly Val Lys Arg Met
35 40 45

Thr Val Tyr Asp Asp Ser Tyr Tyr Ser Phe Glu Ser Ile Pro Tyr Ala
50 55 60

Lys Pro Pro Val Gly Glu Leu Arg Phe Lys Ala Pro Gln Arg Pro Val
65 70 75 80

Pro Trp Glu Gly Val Arg Asp Cys Cys Gly Pro Ala Asn Arg Ser Val
 85 90 95

Gln Thr Asp Phe Ile Ser Gly Lys Pro Thr Gly Ser Glu Asp Cys Leu
 100 105 110

Tyr Leu Asn Val Tyr Thr Asn Asp Leu Asn Pro Asp Lys Arg Arg Pro
 115 120 125

Val Met Val Phe Ile His Gly Gly Asp Phe Ile Phe Gly Glu Ala Asn
 130 135 140

Arg Asn Trp Phe Gly Pro Asp Tyr Phe Met Lys Lys Pro Val Val Leu
 145 150 155 160

Val Thr Val Gln Tyr Arg Leu Gly Val Leu Gly Phe Leu Ser Leu Lys
 165 170 175

Ser Glu Asn Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
 180 185 190

Met Ala Leu Arg Trp Val Lys Ser Asn Ile Ala Ile Phe Gly Gly Asp
 195 200 205

Val Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Gly Ala Ser Thr
 210 215 220

His Tyr Met Met Ile Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
 225 230 235 240

Ile Met Met Ser Gly Asn Ser Met Cys Ser Trp Ala Ser Thr Glu Cys
 245 250 255

Gln Ser Arg Ala Leu Thr Met Ala Lys Arg Val Gly Tyr Lys Gly Glu
 260 265 270

Asp Asn Glu Lys Asp Ile Leu Glu Phe Leu Met Lys Ala Asn Pro Tyr
 275 280 285

Asp Leu Ile Lys Glu Glu Pro Gln Val Leu Thr Pro Glu Arg Met Gln
 290 295 300

Asn Lys Val Met Phe Pro Phe Gly Pro Thr Val Glu Pro Tyr Gln Thr
 305 310 315 320

Ala Asp Cys Val Val Pro Lys Pro Ile Arg Glu Met Val Lys Ser Ala
 325 330 335

Trp Gly Asn Ser Ile Pro Thr Leu Ile Gly Asn Thr Ser Tyr Glu Gly
 340 345 350

Leu Leu Ser Lys Ser Val Ala Lys Gln Tyr Pro Glu Val Val Lys Glu
 355 360 365

Leu Glu Ser Cys Val Asn Tyr Val Pro Trp Glu Leu Ala Asp Ser Glu
 370 375 380

Arg Ser Ala Pro Glu Thr Leu Glu Arg Ala Ala Ile Val Lys Lys Ala
395 390 395 400

His Val Asp Gly Glu Thr Pro Thr Leu Asp Asn Phe Met Glu Leu Cys
405 410 415

Ser Tyr Phe Tyr Phe Leu Phe Pro Met His Arg Phe Leu Gln Leu Arg
420 425 430

Phe Asn His Thr Ala Gly Thr Pro Ile Tyr Leu Tyr Arg Phe Asp Phe
435 440 445

Asp Ser Glu Glu Ile Ile Asn Pro Tyr Arg Ile Met Arg Phe Gly Arg
450 455 460

Gly Val Lys Gly Val Ser His Ala Asp Glu Leu Thr Tyr Leu Phe Trp
465 470 475 480

Asn Ile Leu Ser Lys Arg Leu Pro Lys Glu Ser Arg Glu Tyr Lys Thr
485 490 495

Ile Glu Arg Met Val Gly Ile Trp Thr Glu Phe Ala Thr Thr Gly Lys
500 505 510

Pro Tyr Ser Asn Asp Ile Ala Gly Met Glu Asn Leu Thr Trp Asp Pro
515 520 525

Ile Lys Lys Ser Asp Asp Val Tyr Lys Cys Leu Asn Ile Gly Asp Glu
530 535 540

Leu Lys Val Met Asp Leu Pro Glu Met Asp Lys Ile Lys Gln Gly Ala
545 550 555 560

Ser Ile Phe Asp Lys Lys Lys Glu Leu Phe
565 570

<210> 14
<211> 1710
<212> DNA
<213> Musca domestica

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caaattaagg gtgttaagcg aatgaccgtc tacgatgatt cttactacag tttcgagagt 180
ataccctatg ctaagcctcc agtgggtgag ttgagattca aggcacccca gcggcctgta 240
ccatgggagg gtgtacgtga ttgctgtggg ccagccaaca gatcgttaca gacagatttc 300
ataagtggca aaccacaggg ttcgaggatg tgtctatacc tgaatgtgta taccaatgac 360
ttgaacccag acaaaaggcg tctgtttatg gttttcatcc atggcgggaga ttttattttc 420
ggcgaagcaa atcgtaactg gtttggtccc gactacttta tgaagaaacc cgtgggtcttg 480
gtaaccgtgc aatatcgttt ggggtgtgtt gggttcctta gcctgaaatc ggaaaatctc 540
aatgtccccc gcaacgctgg cctcaaggat caagtaatgg ccttgagatg ggtcaagagt 600
aatattgcca ttttcggtgg cgatgtagac aatattaccg tcttcggcga aagtgtctgt 660
ggggcctcaa ccattacat gatgataacc gaacagaccc gtggtttatt ccatcggtgt 720
atcatgatgt ccggtaatcc catgtgctca tgggcctcta cagaatgcca aagtcgtgcg 780
ctcaccatgg ccaaacgtgt tggctataag ggagaggaca atgaaaaaga tatcctggaa 840
ttcctaataga aagccaatcc ctatgatttg atcaaaggag agccacaagt tttgacaccc 900

gaaagaatgc aaaataaggt catgttttct tttggaccca ctgtagaacc ataccagaca 960
 gggactgtg tggtagccaa accaatcaga gaaatgggtg agagcgctg gggaaattcg 1020
 ataccacat tgataggcaa tacctcctac gaaggtttgc tttccaaatc aattgccaaa 1080
 caatatccgg aggtttgtaaa agagttagaa tctgtgtga attatgtgc ttgggagttg 1140
 gctgacagt aacgcagtgc cccggaaaac ctggagaggg ctgccattgt gaaaaaggcc 1200
 catgtggat gggaaacacc tactctggat aattttatgg agctttgtgc ctatttttat 1260
 tctctctcc ccatgcctgc ttctctacaa ttgcgcttca accacacagc tggcactccc 1320
 atttatttgt atcgttttga ttctgatccc gaagaaatta ttaaccctta tctattatg 1380
 cgttttggcc gtgggttaa aggtgttaag catgcgatg agctaaccct tctctcttgg 1440
 aacattttgt cgaacgcct gccaaaaggaa agccgcgaat acaaaaccat tgaacgcctg 1500
 gttggcattt ggaacggaatt cggcaccacc ggcaaacctat acagcaatga tatagccggc 1560
 atggaaaacc tcaactggga tcccataaaa aaatccgatg atgtctataa atgttttaaa 1620
 atcggcgatg aattgaaagt tatggatttg ccagaaatgg ataaaattaa acaatgggca 1680
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<210> 15

<211> 207

<212> PRT

<213> Musca domestica

<400> 15

Gln Thr Asp Phe Ile Ser Gly Lys Pro Thr Gly Ser Glu Asp Cys Leu
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Tyr Leu Asn Val Tyr Thr Asn Asp Leu Asn Pro Asp Lys Lys Arg Pro
 20 25 30

Val Met Val Phe Ile His Gly Gly Gly Phe Ile Phe Gly Glu Ala Asn
 35 40 45

Arg Asn Trp Tyr Gly Pro Asp Tyr Phe Met Lys Lys Pro Val Val Leu
 50 55 60

Val Thr Val Gln Tyr Arg Leu Gly Val Leu Gly Phe Leu Ser Leu Lys
 65 70 75 80

Ser Glu Asn Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
 85 90 95

Met Ala Leu Arg Trp Phe Lys Ser Asn Ile Ala Ile Phe Gly Gly Asp
 100 105 110

Val Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Gly Ala Ser Thr
 115 120 125

His Tyr Met Met Ile Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
 130 135 140

Ile Met Met Ser Gly Asn Ser Met Cys Ser Ser Ala Ser Thr Glu Cys
 145 150 155 160

Gln Ser Arg Ala Leu Thr Met Ala Lys Arg Val Gly Tyr Lys Gly Glu
 165 170 175

Glu Asn Glu Lys Asp Ile Leu Glu Phe Leu Met Lys Ala Asn Pro Tyr
 180 185 190

Asp Leu Ile Lys Glu Glu Pro Gln Val Leu Thr Pro Glu Arg Met

<210> 16
 <211> 21
 <212> DNA
 <213> *Lucilia cuprina*

<400> 16
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<210> 17
 <211> 21
 <212> DNA
 <213> *Lucilia cuprina*

<400> 17
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<210> 18
 <211> 21
 <212> DNA
 <213> *Lucilia cuprina*

<400> 18
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<210> 19
 <211> 21
 <212> DNA
 <213> *Lucilia cuprina*

<400> 19
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<210> 20
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 <212> DNA
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<400> 20
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<210> 21
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<400> 21
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<210> 22
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 <212> DNA
 <213> *Lucilia cuprina*

<400> 22
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<210> 23
<211> 21
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<213> Lucilia cuprina

<400> 23
tcccaaacga tattgtatgt t 21

<210> 24
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 24
acatcatgta gtgggtagaa g 21

<210> 25
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 25
ccgaggatgt ttgggtaaga c 21

<210> 26
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 26
tatsagatgt tgggttttct c 21

<210> 27
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 27
acgcgattct ttaggcatac g 21

<210> 28
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 28
tgtgtcctct acccactaca t 21

<210> 29
<211> 21
<212> DNA
<213> Lucilia cuprina

<400> 29
cctgtggctt ggctttcata a 21

<210> 30

<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Degenerate
Primer

<220>
<221> modified_base
<222> (9)
<223> i

<220>
<221> modified_base
<222> (12)
<223> i

<220>
<221> modified_base
<222> (15)
<223> i

<220>
<221> modified_base
<222> (21)
<223> i

<220>
<221> modified_base
<222> (27)
<223> i

<220>
<221> modified_base
<222> (30)
<223> i

<400> 30
ttcgagggna tncctaygc nmarccnccn btngg

35

<210> 31
<211> 32
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Degenerate
Primer

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<222> (12)
<223> i

<220>
<221> modified_base
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<210> 1

<211>

<211> modified_base

<212> (18)

<213> 1

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<213> 1

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<212> (27)

<213> 1

<400> 31

acgtggtcgt tnaacnccgc rttncnccgn ac

32

<210> 32

<211> 32

<212> DNA

<213> Musca domestica

<400> 32

tttgggtccg actactttat ga

22

<210> 33

<211> 34

<212> DNA

<213> Musca domestica

<400> 33

tgcacttat gaaatctgtc tgta

24

<210> 34

<211> 24

<212> DNA

<213> Musca domestica

<400> 34

tacatgatga taaccgaaca gacc

24

<210> 35

<211> 23

<212> DNA

<213> Musca domestica

<400> 35

togattattt gggtttcatt tgt

23

<210> 36

<211> 21

<212> DNA

<213> Musca domestica

<400> 36

acagacagat ttcataagtg g 21

<210> 37

<211> 21

<212> DNA

<213> Musca domestica

<400> 37

tttgcattct ttgggtgtc a 21

<210> 38

<211> 21

<212> DNA

<213> Musca domestica

<400> 38

attgatacc cacattgata g 21

<210> 39

<211> 21

<212> DNA

<213> Musca domestica

<400> 39

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<210> 40

<211> 23

<212> DNA

<213> Musca domestica

<400> 40

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<212> DNA

<213> Musca domestica

<400> 41

aaacaattcc ttstttttat cga 23

<210> 42

<211> 21

<212> DNA

<213> Musca domestica

<400> 42

ggcatggaaa acctcacctg g 21

<210> 43

<211> 207

<212> PRT

<213> Lucilia cuprina

<400> 43

Gln Val Asp Phe Ile Thr Gly Lys Val Cys Gly Ser Glu Asp Cys Leu

1

5

10

15

Tyr Leu Ser Val Tyr Thr Asn Asn Leu Asn Pro Glu Thr Lys Arg Pro
20 25 30

Val Leu Val Tyr Ile His Gly Gly Gly Phe Ile Ile Gly Glu Asn His
35 40 45

Arg Asp Met Tyr Gly Pro Asp Tyr Phe Ile Lys Lys Asp Val Val Leu
50 55 60

Ile Asn Ile Gln Tyr Arg Leu Gly Ala Leu Gly Phe Leu Ser Leu Asn
65 70 75 80

Ser Glu Asp Leu Asn Val Pro Gly Asn Ala Gly Leu Lys Asp Gln Val
85 90 95

Met Ala Leu Arg Trp Ile Lys Asn Asn Cys Ala Asn Phe Gly Gly Asn
100 105 110

Pro Asp Asn Ile Thr Val Phe Gly Glu Ser Ala Gly Ala Ala Ser Thr
115 120 125

His Tyr Met Met Leu Thr Glu Gln Thr Arg Gly Leu Phe His Arg Gly
130 135 140

Ile Leu Met Ser Gly Asn Ala Ile Cys Pro Leu Ala Asn Thr Gln Cys
145 150 155 160

Gln His Arg Ala Phe Thr Leu Ala Lys Leu Ala Gly Tyr Lys Gly Glu
165 170 175

Asp Asn Asp Lys Asp Val Leu Glu Phe Leu Met Lys Ala Lys Pro Gln
180 185 190

Asp Leu Ile Lys Leu Glu Glu Lys Val Leu Thr Leu Glu Glu Arg
195 200 205